Specifiers: Click on the ¶ icon in the WORD toolbar to reveal detailed instructions

*(**Specifier Note**: The purpose of this guide specification is to assist the specifier in correctly specifying metal wall panels and their installation. The specifier needs to edit these guide specifications to fit the needs of each specific project. Contact a Morin representative to assist in appropriate product selections. Throughout the guide specification, there are Specifier Notes to assist in the editing of the file. The term Architect is used throughout these guide specifications and may be revised to read "Design Professional"," Engineer", "Owner" or other appropriate designation as required for specific projects.*

References have been made within the text of the specification to the current MasterFormat Section numbers and titles, specifier needs to coordinate these numbers and titles with sections included for the specific project. Brackets []; "AND/OR"; and "OR" have been used to indicate when a selection is required, in most cases the first option is the standard feature, and optional features are indicted in brackets. Some options may require additional lead-time, if this is a consideration; contact a Morin representative for assistance.)

SECTION 07 42 13
METAL WALL PANELS

Morin Metal Panels
Morin Matrix Series Metal Wall Panels

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. [Concealed fastener single-skin metal wall panels installed using the back ventilated rainscreen design principle.]

B. [Concealed fastener, field assembled, insulated metal wall panels with liner panels.]

C. Accessories including fasteners, perimeter trim and penetration treatments.

1.2 REFERENCES

A. ASTM International

1. ASTM A240; Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
2. ASTM A653; Standar Specification for Steel Sheet, Zinc Coated (Galvanized) or Zinc Iron Alloy Coated (Galvannealed) by the Hot Dip Process.
3. ASTM A666; Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
4. ASTM A792; Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
5. ASTM B209; Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

6. ASTM C612; Standard Specification for Mineral Fiber Block and Board Thermal Insulation.
7. ASTM C645; Standard Test Method for Nonstructural Steel Framing Members.
8. ASTM D2244; Standard practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates
9. ASTM D4214; Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films
10. ASTM E283; Standard Test Method for determining Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors under Specified Pressure Differences across the Specimen.
11. ASTM E331; Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
12. ASTM E1592; Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference.

B. German Institute for Standardization (DIN)

1. DIN EN988; Specifications for zinc and zinc alloy rolled flat products for building.
2. DIN EN1179; Zinc and Zinc alloys – Primary Zinc.

1.3 SUBMITTALS

*(**Specifier Note**: DELETE Submittal Procedures paragraph when not required. Coordinate requirements with Division 01, Section 01 33 00 – Submittal Procedures.)*

A. Refer to Section [01 33 00 Submittal Procedures] [Insert section number and title].

B. Product Data: Submit manufacturer current technical literature for each type of product.

C. Delegated Design: Design metal wall panel assembly, submit comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

D. Shop Drawings - Submit detailed drawings showing:

1. Profile
2. Gauge of panel
3. Location, layout and dimensions of panels
4. Location and type of fasteners
5. Shape and method of attachment of all trim
6. Locations and type of sealants
7. Installation sequence.
8. Other details as may be required for a weathertight installation

E. Samples: Provide nominal 3 x 5 inch of each color indicated. [Provide panel width by 10 inches long minimum] [Insert size].

*(**Specifier Note**: DELETE LEED submittal requirements when project is not pursuing LEED certification.)*

F. LEED Submittals:

1. Material and Resources (MR)

a. Product Certificates for Credit MR 4: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content.

G. Quality Assurance Submittals

*(**Specifier Note**: DELETE Design Data, Test Report submittal requirements when propriety specification is used. MAINTAIN Design Data, Test Report submittal requirement when other products may be submitted as substitutions.)*

1. Design Data, Test Reports: Provide manufacturer test reports indicating product compliance with requirements.
2. Manufacturer Erection Instructions: Provide manufacturer's written installation instructions including proper material storage, material handling, installation sequence, panel location(s), and attachment methods, details and required trim and accessories.

H. Closeout Submittals

1. Refer to Section [01 78 00 Closeout Submittals] [Insert section number and title].

1.4 ADMINISTRATIVE REQUIREMENTS

A. Pre-installation meeting: Conduct a pre-installation meeting at the job site attended by Owner, Architect, Manufacturer's Technical Representative, Panel Installer, and Contractors of related trades. Coordinate structural support requirements in relation to wall panel system, installation of any separate air/water barriers, treatment of fenestration, and other requirements specific to the project.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Manufacturer shall have a minimum of ten (10) years experience in the production of metal wall panels. Manufacturer shall demonstrate past experience with examples of projects of similar type and exposure.

B. Installer Qualifications: Installer shall be authorized by the manufacturer and the work shall be supervised by a person having successfully completed a manufacturer training seminar regarding proper installation of the specified product.

1.6 DELIVERY, STORAGE AND HANDLING

A. Refer to Section [01 60 00 Product Requirements] [Insert section number and title].

B. Deliver panel materials and components in manufacturer's original, unopened, undamaged packaging with identification labels intact.

C. Store wall panel materials on dry, level, firm, and clean surface. Elevate one end of bundle to allow moisture run-off, cover and ventilate to allow air to circulate and moisture to escape.

1.7 WARRANTY

A. Refer to Section [01 78 36 Warranties] [Insert section number and title].

*(**Specifier Note**: DELETE warranty information not specific to project.)*

B. Material Warranty: Standard form in which manufacturer agrees to repair or replace items that fail in materials or workmanship within specified warranty period. The items covered by the warranty include structural performance and finish performance.

1. Warranty Period: Two (2) years from date of Substantial Completion.

*(**Specifier Note**: Finish warranty periods are limited by the coil coater and the coating manufacturer and the finish.)*

C. Finish Warranty: Standard form in which manufacturer agrees to repair or replace metal panels that evidence deterioration of fluoropolymer finish, including flaking or peeling from approved primed metal substrate, chalk in excess of 8 when tested in accordance with ASTM D4214, Method A, and /or color fading in excess of 5 ΔE Hunter units on panels when tested in accordance with ASTM D2244.

1. Warranty Period: Twenty (20) years from date Substantial Completion, or 20 years and 3 months from the date of shipment from manufacturer's plant, whichever occurs first.

PART 2 - PRODUCTS

*(**Specifier Note:** Product Information is proprietary to Morin Metal Panels. If additional products are required for competitive procurement, contact Morin Metal Panels for assistance.)*

2.1 MANUFACTURER

A. Morin; a Kingspan Group Company; 685 Middle Street, Bristol, Connecticut 06010-8416; 1-800-640-9501 (Toll Free); (www.morincorp.com).

B. Basis of Design: "Morin Matrix Series Wall Panels".

*(**Specifier Note**: DELETE or COORDINATE Substitution Limitations paragraph if substitutions, are addressed in Division 01, Section 01 21 00 – Substitution Procedures.)*

C. Substitution Limitations:

1. Submit written request for approval of substitutions to the Architect [a minimum of [14] days prior to the date for receipt of bids] [Insert time period]. Include the following information:

   a. Name of the materials and description of the proposed substitute.
   b. Drawings, cut sheets, performance and test data.
   c. List of projects similar scope and photographs of existing installations.
   d. Other information necessary for evaluation.

2. After evaluation by Architect, approval will be issued via addendum. No verbal approval will be given.

3. Substitutions following award of contract are not allowed except as stipulated in Division 01 – General Requirements.

2.2 PERFORMANCE CRITERIA

A. Structural Performance: Provide metal wall panel systems designed to resist the following loads. Testing shall be done based on ASTM E1592:

1. Wind Loads: Determine loads based on the following minimum design wind pressures:

   a. Uniform pressure [Insert design wind pressure] [as indicated on Drawings].

2. Deflection Limits: Metal wall panel assemblies shall withstand horizontal deflections no greater than [L/180] [L/240] [Insert deflection] of the span.

B. Water Penetration under Static Pressure: Provide metal wall panel systems designed to resist penetration of water under static pressure. Testing shall be based on ASTM E331. Wall panels when tested shall have no water leakage at 6 pounds per square foot.

C. Air Infiltration: Provide metal wall panel assemblies designed to resist air infiltration. Testing shall be done based on ASTM E283. Wall panels when tested shall have a maximum air leakage of 0.01 cfm per square feet of fixed wall area at a minimum static air-pressure differential of 1.57 foot pounds per square foot.

2.3 WALL PANEL MATERIALS

*(**Specifier Note**: Choose one of the following materials. Steel, Aluminum, or Rheinzink. Aluminum-Zinc Alloy-Coated Steel is Standard)*

A. Steel:

1. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A792, Class AZ50 coating designation, Grade 40.
2. Gauge: [22] [20]

OR

B. Aluminum:

1. Coil Stock meeting ASTM B209; Alloy and temper as required for forming operations.
2. Thickness: [0.040] [0.050] inch.

OR

C. Stainless Steel Sheet:

1. ASTM A240 or ASTM A666, Type 304, dead soft, fully annealed.
2. Gauge: [24] [22]

OR

D. Rheinzink Sheets:

1. Sheet stock meeting DIN EN1179, consisting of Zinc with copper and titanium additives in accordance with DIN EN988.
2. Thickness: [0.8] [1.0] mm.

2.4 CONCEALED FASTENER WALL PANELS

A. Wall Panel Description:

1. Panel Width: 12 inches.
2. Profile: [MX 1.0] [and] [MX 2.0] [MX 3.0] [MX 4.0] [as indicated on drawings].
3. Panel thickness: 1-1/2 inch thick.
4. Panel joint: Tongue and groove interlock joint.
5. Texture: [Smooth] [Non-directional embossed].

*(**Specifier Note:** DELETE if liner panels are not used. 12 inch panels use 12 or 24 inch liner panels.)*

B. Liner Panel Description:

1. Panel Width: 12 inches; liner panel series [L-12] [L-12-SF] [L2-12-2F] [L-12W-1] [as indicated on drawings].

OR

2. Panel Width: 24 inches; liner panel series [L-24-5F] [L-24W-2] [L2-24W-0] [L3-24W-0] [L3-24W-3F] [L2-24-5F] [F-24] [as indicated on drawings].

*(**Specifier Note:** DELETE insulation if field assesmbled liner panels are not used.)*

2.5 INSULATION

*(**Specifier Note:** If insulation is to be provided in Section 07 21 00, DELETE Glass-Fiber Board Insulation paragraph.)*

A. Refer to Section [07 21 00 - Thermal Insulation] [Insert section number and title].

B. Glass-Fiber Board Insulation: ASTM C612, Type IA, unfaced semi rigid insulation. Nominal density of 3 pounds per cubic foot. Size as required for liner panels.

2.6 ACCESSORIES

A. Wall panel accessories: Provide accessories as required for a complete installation. Accessories shall be as indicated on approved shop drawings and per manufacturer's approved standard details. Match material and finish of metal wall panels.

1. Closure Strips:

a. Closed Cell Closure Strips: Provide minimum 1 inch thick matching metal wall panel profile.
b. Metal Profile Closure Strips: Shall be fabricated from same gauge, material and finish as metal panel.

*(**Specifier Note**: 18 gauge clip is used in the attachment of steel panels; 20 gauge stainless steel clips are used in the attachment of aluminum or zinc panels.)*

2. [Concealed Clips: 18 gauge; Zinc-Coated (Galvanized) Steel Sheet: ASTM A653, G90 coating designation]
3. [Concealed Clips: 20 gauge; ASTM A240or ASTM A666, Type 304, dead soft, fully annealed.]
4. Panel Reveal Trim: Extruded aluminum; 0.078 inch thick, 6063-T5 alloy.

a. Profile: [MT 1.0] [and] [MT 2.0] [MT 3.0] where shown on Drawings.

*(**Specifier Note**: DELETE Flashing and trim materials if products are provided under Division 07 Section 07 62 00 - Sheet Metal Flashing and Trim.)*

B. Trim:

1. Fabricate trim from same material and material thickness as wall panels. Finish to match metal wall panels.
2. Locations include, but are not limited to the following: Drips, sills, jambs, corners, framed openings, parapet caps, reveals and fillers.
3. [Trim shall be provided under Section 07 62 00 - Sheet Metal Flashing and Trim".]

C. Metal Framing:

*(**Specifier Note**: EDIT metal framing requirements to suit Project needs.)*

1. General: ASTM C645, cold-formed metallic-coated steel sheet, [ASTM A653, G40 hot-dip galvanized] [ASTM A653, G60 hot-dip galvanized].
2. Hat-Shaped, Rigid Furring Channels:

   a. Gauge: [18 gauge] [16 gauge].
   b. Depth: [1/2"] [1"] [Insert depth].

3. Cold-Rolled Furring Channels: Minimum 1/2-inch wide flange.

   a. Gauge: [18 gauge] [16 gauge].
   b. Depth: [As indicated on Drawings].

D. Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads.

2.7 FABRICATION

A. Metal wall panels [and] [liner panels] shall be formed to lap and interconnect with edges of adjacent panels which are then mechanically attached through panel to supports using concealed fasteners.

B. Panels shall be factory formed. Field formed panels are not acceptable.

*(**Specifier Note:** DELETE trim accessories fabrication paragraph if provided under Division 07 Section "Sheet Metal Flashing and Trim".)*

C. [Trim Accessories: Fabricate steel trim accessories to comply with recommendations outlined in SMACNA's "Architectural Sheet Metal Manual".]

D. [Trim Accessories: Provide manufacturer's standard extruded aluminum trim.]

*(**Specifier Note**: DELETE factory fabricated mitered corners if trim covered corners are chosen.)*

E. Mitered Corners: Structurally bonded horizontal outside or inside trimless corners matching metal wall panel material, profile and factory applied finish shall be fabricated by metal wall panel manufacturer.

1. Welded, riveted or field fabricated coners do not meet the requirements of this specification.
2. Basis of Design: Morin Miterseam Corners (24" x 24")

2.8 FINISHES

A. [Steel] [Aluminum]:

*(**Specifier Note:** Custom colors require a minimum quantity order of 2, 500 linear feet.)*

1. Finish and Color:

a. Color: [Selected from current Morin Metal Wall Panel color chart] [Custom color as selected by Architect] [Color indicated].
b. Finish System:

*(**Specifier Note:** Choose one of the following paint systems. 1.0 mil Two Coat system (Solid Color) is most commonly used. The 1.0 mil Mica color coat and the 1.5 mil Metallic color coat systems are chosen if Premium Colors are desired. The paint Fluropolymer (PVDF) systems will receive the 20 year finish warranty.*

1) [1.0 mil. Fluropolymer (PVDF) Two Coat system: 0.2 mil primer with 0.8 mil Kynar 500 (70 percent) SOLID color coat.]
2) [1.0 mil. Fluropolymer (PVDF) Two Coat system: 0.2 mil primer with 0.8 mil Kynar 500 (70 percent) MICA color coat.]
3) [1.5 mil. Fluropolymer (PVDF) Three Coat system: 0.2 mil primer with 0.8 mil Kynar 500 (70 percent) METALLIC color coat and .5 mil clear coat.]

OR

B. Rheinzink: [Bright Rolled – mill finish] [Pre-weathered "Graphite-Gray"] [Pre-weathered "Blue-Gray"]

PART 3 - EXECUTION

3.1 EXAMINATION

A. Provide field measurements to manufacturer as required to achieve proper fit of the metal wall panels to building envelope. Measurements shall be provided in a timely manner so that there is no impact to construction or manufacturing schedule.

B. Supporting Steel: All structural supports required for installation of panels shall be by others. Support members shall be installed within the following tolerances:

1. Plus or minus 1/8 inch in 5 feet in any direction along plane of framing.
2. Plus or minus ¼ inch cumulative in 20 feet in any direction along plane of framing.
3. Plus or minus ½ inch from framing plane on any elevation.
4. Plumb or level within 1/8 inch at all changes of transverse for performed corner panel applications.
5. Verify that bearing support has been provided behind vertical joints of horizontal panel systems and vertical joints of horizontal panel systems. Width of support shall be as recommended by manufacturer.

C. Examine individual panels upon removing from the bundle; notify manufacturer of panel defects. Do not install defective panels.

3.2 PANEL INSTALLATION

*(**Specifier Note:** DELETE installation paragraphs not project specific.)*

A. Installation shall be in accordance with manufacturer's installation guidelines and recommendations.

B. Install panels plumb, level, and true-to-line to dimensions and layout indicated on approved shop drawings.

C. Cutting and fitting of panels shall be neat, square and true. Torch cutting is prohibited.

3.3 TRIM INSTALLATION

A. Place trim and trim fasteners only as indicated per details on the approved shop drawings.

B. Apply sealant tape at trim, per manufacturer's details and approved shop drawings, for weathertight installation.

3.4 SEALANT INSTALLATION FOR EXPOSED JOINTS

A. Clean and prime surfaces to review exterior exposed sealants in accordance with sealant manufacturer's recommendations.

B. Follow sealant manufacturer's recommendations for joint width-to-depth ratio, application temperature range, size and type of backer rod, and compatibility of materials for adhesion.

3.5 CLEANING AND PROTECTION

A. Remove protective film immediately after installation.

B. Touch-up, repair or replace metal panels and trim that have been damaged.

C. After metal wall panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.

END OF SECTION

DISCLAIMER:

Morin Metal Panels Guide Specifications have been written as an aid to the professionally qualified Specifier and Design Professional. The use of this Guideline Specification requires the sole professional judgment and expertise of the qualified Specifier and Design Professional to adapt the information to the specific needs for the Building Owner and the Project, to coordinate with their Construction Document Process, and to meet all the applicable building codes, regulations and laws. MORIN METAL PANELS EXPRESSLY DISCLAIMS ANY WARRANTY, EXPRESSED OR IMPLIED, INCLUDING THE WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE OF THIS PRODUCT FOR THE PROJECT.